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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD OF CARDIAC IMAGING WITH THE USE OF HYPERPOLARIZED ¹³C-PYRUVATE

(57) Abstract: The invention relates to a method of cardiac imaging using hyperpolarised ¹³C-pyruvate as MR imaging agent, which allows determination of the viability of cells in the myocardium.



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INTERNATIONAL SEARCH REPORT

International application No

PCT/N02005/000434

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61K49/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A61K G01R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GOLMAN KLAES ET AL: "Molecular imaging with endogenous substances." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, vol. 100, no. 18, 2 September 2003 (2003-09-02), pages 10435-10439, XP002411006 ISSN: 0027-8424 page 10438, column 2, paragraphs 2,3	1-15
Y	WO 99/35508 A (NYCOMED IMAGING AS [NO]; COCKBAIN JULIAN [GB]; ARDENKJAER LARSEN JAN H) 15 July 1999 (1999-07-15) cited in the application page 12 page 22, lines 16-18 ----- -/-	1-15

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No
PCT/NO2005/000434

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GOULD P: "C-13 MR tracers show potential for functional diagnostics" [Online] June 2004 (2004-06), , XP002363324 Retrieved from the Internet: URL: http://www.diagnosticimaging.com/molecularimagingoutlook/2004jun/04.jhtm [retrieved on 2006-01-17] the whole document	1-15
Y	GOLMAN K ET AL: "Molecular imaging using hyperpolarized ¹³ C" BRITISH JOURNAL OF RADIOLOGY, BRITISH INSTITUTE OF RADIOLOGY, LONDON, GB, vol. 76, no. spec no 2, 2003, pages S118-S127, XP002363325 ISSN: 0007-1285 page S122, column 1, lines 1-4	1-15
A	KHAIRALLAH MAYA ET AL: "Profiling substrate fluxes in the isolated working mouse heart using ¹³ C-labeled substrates: focusing on the origin and fate of pyruvate and citrate carbons." AMERICAN JOURNAL OF PHYSIOLOGY. HEART AND CIRCULATORY PHYSIOLOGY. APR 2004, vol. 286, no. 4, April 2004 (2004-04), pages H1461-H1470, XP002411007 ISSN: 0363-6135 the whole document	
T	GOLMAN ET AL: "Metabolic Imaging and Other Applications of Hyperpolarized ¹³ C" ACADEMIC RADIOLOGY, RESTON, VA, US, vol. 13, no. 8, August 2006 (2006-08), pages 932-942, XP005638245 ISSN: 1076-6332 the whole document	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/N02005/000434

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 1-15 are directed to a diagnostic method practised on the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/NO2005/000434

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9935508	A	15-07-1999	NONE